

REMARKS

- Prior to this amendment:
 - Claims 1-19 are pending.
- Upon entry of this amendment, which is respectfully requested for the reasons given below:
 - claims 2, 6, 9, and 15 will be canceled; and
 - claim 20 will be added.

1. Drawing Objections

The Examiner has objected to the drawings under 37 CFR 1.83(a). The Examiner asserts that the drawings do not show the “memory comprising a gear” which appears in claim 9. Applicants respectfully disagree with the grounds for this objection. However, so as to overcome the objection, claim 9 is canceled.

2. Specification

Applicants will cooperate in bringing to the Examiner’s attention any errors of which Applicants become aware in the future.

3. Claim Objections

The Examiner has objected to some of the pending claims for various alleged informalities, as follows:

Claim 5

The Examiner has objected to claim 5, asserting that “the first display and the third display cannot be the same display” since “the first display displays the first amount of time, and the third display displays the second amount of time”. Claim 5 is therefore amended to clarify that the first display and the third display can be one and the same display since a single display is capable of displaying both the first amount of time and the second amount of time. For example, a single display can display the first amount of

time at a first location on the display and the second amount of time at a second location on the display. Applicants note that it is well known that a single display can display multiple different items. For example, a computer monitor can display multiple lines of text. Further, applicants have provided support in the specification for a single display which can display multiple items. For example, paragraph 0053 of the specification includes the following text:

Further, displays 204 and 206 display a time remaining as a sequence of numerals and colons, rather than as a position of two clock hands on a circular clock face. Displays 204 and 206 may, in addition, display other pieces of information, such as a move number, or an amount of time remaining in a grace period before a player will begin to lose time.

Claim 7

The Examiner has objected to claim 7, asserting that “the first memory and the second memory cannot be the same memory” since the first memory stores the first amount of time and the second memory stores the second amount of time.” The Examiner asserts that “if the first memory were the same as the second memory, it would necessarily store the same time.”

Claim 7 is therefore amended to clarify that a single memory can store both the first amount of time and the second amount of time. As is well known, a single memory can have multiple addresses or locations in memory, each of which may store a different item, such as a different amount of time remaining.

Claim 6

The Examiner has objected to claim 6, asserting that claim 6 is of “improper dependent form for failing to further limit the subject matter of a previous claim.” Claim 6 is canceled.

4. Claim Rejections – Section 112

Claim 13

The Examiner has rejected Claim 13 under 35 U.S.C. 112 for failing to comply with the enablement requirement. The Examiner asserts that “the specification fails to explain how the microphone [of claim 13] should be connected so as to properly provide inputs.”

Applicants respectfully traverse this rejection. Applicants have described and enabled the input buttons used in some embodiments of applicants’ invention. Further applicants have suggested that microphones are an alternative to input buttons. Applicants note that microphones, by definition, convert sound signals (e.g., voice) into electrical signals. Once converted into an electrical signal, an input from a microphone can function just as an input from a mechanical input button, which converts pressure into electrical signals. Applicants respectfully refer the Examiner to the following passages from Applicants’ specification:

Input buttons 414 may include buttons, switches, levers, dials, keypads, touch screens, computer mice, roller balls, or any other conceivable input devices. An input button may comprise, for example, a pressure sensor with a plastic cover. The pressure sensor may be part of an electric circuit. The pressing of the button by a person may change the resistance of the pressure sensor, thereby changing the amount of current to flow in the circuit. The change in current flow may be interpreted by the processor 402 as a signal. Input buttons 414 may therefore be used by a player to send signals to the processor 402, and to instruct the processor 402 to operate chess clock 400 in a desired manner. [page 11, line 33 to page 12]

In one or more embodiments of the present invention, it is envisioned that a large number of displays may limit the amount of room on the outer surface of a chess clock in which to place input buttons. Thus, a person might have trouble entering a diverse set of game convention and format data using the limited number of input buttons that may be present. Therefore, in one or more embodiments, the chess clock of the present invention may receive voice inputs

from a person. For this purpose, the chess clock may possess one or more microphones for detecting sounds. [page 20, lines 5-10]

5. Claim Rejections – Section 102

Claim 1-2

The Examiner has rejected claim 1 as being anticipated by Klein. Accordingly, claim 1 is amended to specify that both the first display and the second display are *rigidly* connected to the body. This amendment is supported by Applicants' specification in a number of areas. For example:

The housing may provide a rigid base to which displays, buttons, clocks, and other elements of a chess clock are attached. [page 5, lines 32-33]

Further, where the connection between two components is mechanical in nature (e.g., two components are connected with screws, adhesives, hinges, bolts, are both connected to the same physical structure, or are both connected to physical structures which are themselves connected), the two components may be said to be “mechanically connected” or “attached.” [page 13, lines 32-36]

It is evident that the “screws”, “adhesives”, or “bolts” described in Applicants' specification would provide a rigid connection between the body and the first or second displays of claim 1. Further, it is evident from Figure 3 that displays 304, 306, 308, and 310 are rigidly connected to the body of chess clock 300.

Klein does not teach a device in which “both the first display and the second display are rigidly attached to the body”. As the Examiner has noted, “The consoles, P2 and P3, while attached to the chassis are not constrained from changing their orientation...”

Neither would it have been obvious at the time of Applicants' invention to modify Klein so as to create a device in which “both the first display and the second display are rigidly attached to the body”. To modify Klein in such a way would result in an awkward and ungainly device, with consoles sticking out from an otherwise flat chessboard. The

resultant device would be difficult to store or transport. Further, it is not clear where the consoles would even be attached to the chessboard, as many configurations would block squares on the chessboard from occupation by chess pieces.

The Examiner has also rejected claim 2. However, as claim 1 has been amended, and claim 2 is dependent on claim 1 (and thereby incorporates all the limitations of claim 1), Applicants submit that claim 2 is now in condition for allowance.

Claim 3

The Examiner has rejected claim 3 as being anticipated by Klein. Accordingly, claim 3 is amended to further limit its scope. The “chassis” of claim 3 has been amended to become a “single rigid chassis”. Further, Applicants have specified that the displays of claim 3 are now *rigidly* attached to the chassis. As discussed with respect to claim 1 above, Klein does not teach a device comprising a single rigid chassis with each of four displays rigidly attached to the chassis. Even if each console of Klein is interpreted to include a chassis, then Klein would teach a device with three separate chassis. If Klein is interpreted to teach a device with a single chassis (i.e., the chessboard), then the displays are not rigidly attached to the chassis.

Claims 4-5

Claims 4-5 have been rejected by the Examiner as being anticipated by Klein. However, since claims 4-5 are dependent on currently amended claim 3, Applicants submit that claim 4 and currently amended claim 5 are now in condition for allowance.

Claim 6

As noted above, claim 6 has been cancelled.

Claim 7

Claim 7 has been rejected by the Examiner as being anticipated by Klein. However, since currently amended claim 7 is dependent on currently amended claim 3, Applicants submit that claim 7 is now in condition for allowance.

Claim 9

As noted above, claim 9 has been cancelled.

Claim 10

The Examiner has rejected claim 10 as being anticipated by Klein. The Examiner has noted that Klein discloses “a mechanical display” and “a mechanical clock face”. Accordingly, Applicants have amended and further limited claim 10 such that the “first display” can no longer be “a mechanical display” or “a mechanical clock face”. Further, since currently amended claim 10 is dependent on currently amended claim 3, Applicants submit that claim 10 is now in condition for allowance.

Claim 11

The Examiner has rejected claim 11 as being anticipated by Klein. Applicants have amended claim 11 to include additional limitations such that the motions of the first and second buttons with respect to the chassis are constrained to one dimension (e.g., the dimension along which the buttons can be depressed or raised). These limitations are described in Applicants specification, e.g., in the following passage:

A player may press a clock button nearest him in order to inactivate his clock and activate his opponent's clock. When pressed, clock buttons 314 and 316 may remain in a depressed position and physically force the opposite button into a raised position. [page 10, lines 33-35]

Since currently amended claim 11 is construed to incorporate the limitations of currently amended claim 3, claim 11 now describes a device that includes a “single rigid chassis”, a “first display rigidly attached to the chassis”, and a “first button attached to the chassis” in which the “the motion of the first button with respect to the chassis is constrained to one dimension”. Klein does not teach such a device. Namely, there is no single rigid chassis in Klein to which both a display is rigidly attached, and to which a button is attached with the motion of the button constrained to only one dimension with respect to the chassis. Even if the consoles of Klein contained buttons (which they do

not), such buttons would be movable in multiple dimensions with respect the chessboard, since the consoles are not rigidly attached to the chessboard.

Applicants' invention as claimed in newly amended claim 11 is superior and non-obvious in light of Klein. Applicants' invention includes a single, potentially compact chassis, with buttons and displays attached either rigidly or constrained to move in only one dimension with respect to the chassis. Accordingly, Applicants' invention is easier to store and transport than that of Klein. For example, Klein's invention requires the transport of a potentially large chessboard and two separate consoles.

In light of the new limitations added to claim 11, and since currently amended claim 11 is dependent on currently amended claim 3, Applicants submit that claim 11 is now in condition for allowance.

Claim 12

Claim 12 has been rejected by the Examiner as being anticipated by Klein. However, since claim 12 is dependent on currently amended claim 3, Applicants submit that claim 12 is now in condition for allowance.

Claims 14-15

The Examiner has rejected claims 14 and 15 as being anticipated by Klein. Accordingly, independent claim 14 is amended to incorporate all the limitations of claim 15, with the further limitations that the first display can no longer be a "mechanical display" or a "clock display". Claim 15 is cancelled.

6. Claim Rejections – Section 103

Claim 8

Claim 8 has been rejected by the Examiner as unpatentable over Klein in view of Newbill. However, since claim 8 is dependent on currently amended claim 3, Applicants submit that claim 8 is now in condition for allowance.

Claim 12

Claim 12 has been rejected by the Examiner as unpatentable over Klein in view of Newbill. However, since claim 12 is dependent on currently amended claim 3, Applicants submit that claim 12 is now in condition for allowance.

Claim 13

The Examiner has rejected claim 13 as being unpatentable over Klein in view of Rast. The Examiner asserts that it would have been obvious “to attach a microphone as taught by Rast” to the clock/timer taught by Klein. Applicants respectfully traverse this rejection.

The Examiner has not shown in any reference any motivation to combine the teachings of Klein and Rast. Klein makes no mention of microphones, nor of the need to record voice notes or any other notes about a game.

The invention taught by Rast appears to be intended for use in productive settings, such as in offices, and in settings where a user is performing multiple tasks. The following is an illustrative passage from Rast:

People in a number of career settings are faced with the prospects of juggling a series of tasks during their work day. Often it is beneficial, or necessary, to track the amount of time accorded to each of these multiple tasks. For example, a consultant may require that the time spent on each of their accounts during a particular day be tracked for billing purposes. A lone entrepreneur may wish to divide their time into specific intervals per day spread across a series of duties, such as marketing, sales, and accounting. Myriad applications exist wherein the tracking of the time spent on an assortment of tasks is either necessary or desirable. [Rast, Brief Summary of the Invention]

It unlikely Rast’s invention would be readily considered for a non-productive use, e.g., for a game. Further, the chess game for which Klein’s invention is designed involves the alternate timing of only two situations - when it is one player’s turn, or when it is the other player’s turn. Rast’s invention appears intended for settings where people are “juggling a series of tasks”, not just two.

The Examiner has suggested that a motivation for combining Klein and Rast would be “to allow a player or judge/referee to record notes about the game using a game timer”. However, to allow the recording of voice notes about a game using a game timer would violate many of the norms and conventions of chess. In the first place, chess players almost invariably require quiet in order to maintain their concentration on the game. The recording of voice notes would likely ruin players’ concentration. Secondly, in tournament chess, it is generally forbidden to make notes or comments about a game, since such notes could unfairly be used by a player to select a better move or strategy. Third, if a judge/referee were to, e.g., pick up the game timer to speak into it, the judge/referee would be removing it from the players’ proximity and thereby depriving the players of the ability to use the game timer for its primary purpose of timing the game.

In summary, Applicants submit that a motivation to combine Klein and Rast has not been demonstrated, and accordingly Applicants’ invention as described by original claim 13 would not have been obvious in view of Klein and Rast.

Further, as claim 13 is dependent upon currently amended claim 3, Applicants submit that claim 13 is in condition for allowance.

Claims 16-19

The Examiner has rejected claims 16-19 as unpatentable over Klein in view of Kifer. Applicants respectfully traverse these rejections.

The Examiner asserts that “it would have been obvious to one skilled in the art to modify Klein’s invention to time four different players.” However, the Examiner has not shown in any reference any motivation to modify Klein’s invention to time four different players. Although the Examiner has suggested a motivation, the Examiner has the unfair advantage of having seen Applicants’ invention. Kifer makes no mention of clocks or the need to time players. Klein makes no mention of timing four players. In fact, Klein’s only purpose in having four clocks (contained in two consoles) appears to be to serve the convenience and comfort of the two players, so that each player may have a console near him. The following is an illustrative passage from Klein:

The provision of two consoles allows each player to be provided with a pair of clocks which can be placed immediately in front of him, although it will be apparent that the invention is equally applicable to the provision of a single console. [Klein, column 2, lines 27-31].

There is no suggestion or motivation to use the four clocks for four players.

Furthermore, the combination of Klein and Kifer would present several technical difficulties. First, the wiring pattern shown on the chessboard depicted in Klein (Figure 1) cannot obviously be generalized to the chessboard shown in Kifer (Figure 2). In Klein, the wiring under the chessboard begins in the lower right-hand corner. It then proceeds to the left under the first rank of the chessboard, moves to the second rank, proceeds to the right under the second rank of the chessboard, moves to the third rank, and so on. Suppose the same wiring pattern were attempted with the chessboard of Kifer (figure 2). The wiring might begin in the lower right hand corner of the 3x8-square appendage of the chessboard towards the bottom of the figure (the square occupied by rook 20A in figure 2), just as it did in Klein. However, what happens once the wiring reaches the fourth rank? The wiring could now proceed either left or right, and it isn't clear which would work. Certainly the same pattern used in Klein would not work in Kifer.

Additionally, Klein's invention includes 64 squares each of which is "mounted independently of the others on sponge rubber [Klein, column 1, lines 31-32]". At the bottom of each square is "a conducting contact such that when the square is pushed down the contact short-circuits the two wires. [Klein, column 1, lines 33-36]." Thus, there are 64 chances for a manufacturing error or user error to lead to a defective square and thus a persistent short circuit which ruins the entire device. To modify Klein to suit Kifer's chessboard would involve expanding to 196 squares, dramatically increasing the chances of device failure.

Furthermore, the combination of Klein and Kifer would exacerbate existing deficiencies with Klein. For example, Klein suggests several circumstances where a player might mistakenly press a square twice during his move and thereby set in motion the wrong time clock. Among these circumstances are when a player has to move two

pieces at once in order to castle or to exchange a pawn for a queen [Klein, column 4, lines 15-29]. Klein says that “in case of a mistake, for example, a player forgetting to push down a square, the clocks can be switched immediately by the player pushing down any square on the board [Klein, column 4, lines 29-33].” However, a mistake could not so easily be remedied if there were four players. Once a player pressed a square an extra time, it would take several additional presses of some other square in order to switch the clocks back to timing the proper player.

For at least the above reasons, Applicants submit that it would not have been obvious, at the time of Applicants’ invention, to combine Klein and Kifer in order to achieve Applicants’ invention. Accordingly, Applicants respectfully submit that independent claim 16 and dependent claims 17-19 are in condition for allowance.

Claim 20

Applicants have added new claim 20, dependent off claim 16, in order to further address the Examiner’s concerns regarding claims 16-19. In claim 20, Applicants’ invention essentially functions as two independent clocks, suitable for timing two separate games of chess at once. Claim 20 describes, for example, button A which effects the time remaining in memory locations w and x, and button B, which also effects the time remaining in memory locations w and x. However, neither button A nor button B has any effect on times remaining in memory locations y and z, nor do buttons C and D have any effect on the times remaining in memory locations w and x. Thus, buttons A and B together function independently from buttons C and D. Newly added claim 20 is supported in Applicants’ specification in at least the following passage:

A chess clock such as is illustrated in figure 20 may be placed between two chessboards, so that the chess clock is to the right of a first chessboard and to the left of a second chessboard. In this way, players at either board would be able to share the chess clock. The chess clock could separately time both games. [page 34, lines 14-17].

Clearly, neither Klein nor Kifer suggest the timing of two independent games. Further, it is difficult to imagine that Klein's invention could be modified to time two independent games. After all, Klein relies on a single chessboard, which can only support one game of chess.

Conclusion

It is submitted that all of the remaining claims are now in condition for allowance, and the Examiner's early re-examination and reconsideration are respectfully requested.

Alternatively, if the Examiner has any questions regarding the present application, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is cordially requested to contact Geoffrey M. Gelman at telephone number (617) 909-2066 or via electronic mail at gmgelman@gmail.com.

Respectfully submitted,

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